

CLAIMS:

1. An apparatus for connecting a tone generator to a plurality of conductors in a communication line, said apparatus comprising:
an interconnect structure comprising:
a first plurality of leads comprising an electrically conductive portion having a first end and a second end, wherein the first plurality of leads are commonly electrically attached at the first end and wherein the first end is configured to electrically attach to a tone generator; and
a plurality of first electrical connection devices electrically attached to a plurality of corresponding leads of the first plurality of leads at the second end, a plurality of first electrical connection devices configured to engage a plurality of electrical conductors of a communication line to provide an electrical connection between the tone generator and a plurality of electrical conductors of the communication line.
2. The apparatus of claim 1, wherein the first end of the first plurality of leads further comprises a first pigtail conductor electrically attached to the first end of the plurality of leads.
3. The apparatus of claim 2, wherein the first pigtail conductor is configured to electrically attach to the tone generator.
4. The apparatus of claim 3, wherein the first pigtail conductor further comprises a second electrical connection device for releasably attaching the second pigtail to the tone generator.

5. The apparatus of claim 1, wherein a plurality of first electrical connection devices are spring loaded clips for releasably attaching a plurality of leads of the first plurality of leads to a plurality of electrical conductors of the communication line.

6. The apparatus of claim 1, further comprising:

a second plurality of leads comprising an electrically conductive portion having a first end and a second end, wherein the second plurality of leads are commonly electrically attached at the first end and wherein the first end is configured to electrically attach to a tone generator; and

a plurality of third electrical connection devices electrically attached to a plurality of corresponding leads of the second plurality of leads at the second end, a plurality of third electrical connection devices configured to engage a plurality of electrical conductors of a communication line to provide an electrical connection between the tone generator and a plurality of electrical conductors of the communication line.

7. The apparatus of claim 6, wherein the first end of the second plurality of leads further comprises a second pigtail conductor electrically attached to the first end of the first plurality of leads.

8. The apparatus of claim 6, wherein the second pigtail conductor is configured to electrically attach to the tone generator.

9. The apparatus of claim 8, wherein the second pigtail conductor further comprises a fourth electrical connection device for releasably attaching the second pigtail to the tone generator.

10. The apparatus of claim 1, wherein a plurality of fourth electrical connection devices are spring loaded clips for releasably attaching a plurality of leads of the second plurality of leads to a plurality of electrical conductors of the communication line.

11. A system for testing a communication line including a plurality of electrical conductors, the system comprising:

a tone generator having a signal output terminal and a common return terminal;

and

an interconnect structure electrically coupled to the tone generator, the

interconnect structure comprising:

a first plurality of leads comprising an electrically conductive portion having a first end and a second end, wherein the first plurality of leads are commonly electrically attached at the first end and wherein the first end is configured to electrically attach to the signal output terminal of the tone generator; and

a plurality of first electrical connection devices electrically attached to a plurality of corresponding leads of the first plurality of leads at the second end, a plurality of first electrical connection devices configured to engage a plurality of electrical conductors of a communication line to provide an electrical connection between the tone generator and a plurality of electrical conductors of the communication line;

wherein a single output tone signal emitted by the tone generator is simultaneously distributed to a plurality of electrical conductors of the communication line.

12. The system of claim 11, wherein the first end of the first plurality of leads further comprises a first pigtail conductor electrically attached at one end to the first end of the plurality of leads and at the other end to the signal output terminal of the tone generator.

13. The system of claim 12, wherein the first pigtail conductor is configured to electrically attach to the signal output terminal of the tone generator.
14. The system of claim 13, wherein the first pigtail conductor further comprises a second electrical connection device for releasably attaching the second pigtail to the signal output terminal of the tone generator.
15. The system of claim 11, wherein a plurality of first electrical connection devices are spring loaded clips for releasably attaching a plurality of leads of the first plurality of leads to a plurality of electrical conductors of the communication line.
16. The system of claim 11, further comprising:
 - a second plurality of leads comprising an electrically conductive portion having a first end and a second end, wherein the second plurality of leads are commonly electrically attached at the first end and wherein the first end is configured to electrically attach to the common return terminal of the tone generator; and
 - a plurality of third electrical connection devices electrically attached to a plurality of corresponding leads of the second plurality of leads at the second end, a plurality of third electrical connection devices configured to engage a plurality of electrical conductors of a communication line to provide an electrical connection between the tone generator and a plurality of electrical conductors of the communication line.
17. The system of claim 16, wherein the first end of the second plurality of leads further comprises a second pigtail conductor electrically attached to the first end of the second plurality of leads.

18. The system of claim 16, wherein the second pigtail conductor is configured to electrically attach to common return terminal of the tone generator.
19. The system of claim 18, wherein the second pigtail conductor further comprises a fourth electrical connection device for releasably attaching the second pigtail to the common return terminal of tone generator.
20. The system of claim 11, wherein a plurality of fourth electrical connection devices are spring loaded clips for releasably attaching a plurality of leads of the second plurality of leads to a plurality of electrical conductors of the communication line.